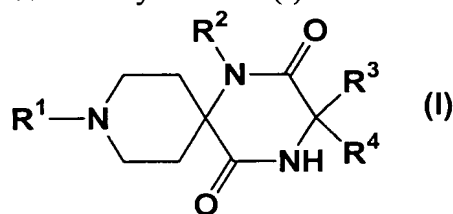


AMENDMENTS TO THE CLAIMS

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (Original) A compound represented by formula (I)



wherein R<sup>1</sup> represents (1) ring 1, or (2) C1-8 alkyl, C2-4 alkenyl or C2-4 alkynyl optionally substituted with 1-3 substituents selected from the following (a)-(i): (a) -OR<sup>5</sup>, (b) -COR<sup>6</sup>, (c) -NR<sup>7</sup>R<sup>8</sup>, (d) -CONR<sup>9</sup>R<sup>10</sup>, (e) -NR<sup>11</sup>COR<sup>12</sup>, (f) -NR<sup>13</sup>SO<sub>2</sub>R<sup>14</sup>, (g) ring 1, (h) =NR<sup>15</sup>, (i) =NOR<sup>16</sup>,

R<sup>5</sup>-R<sup>13</sup>, R<sup>15</sup> and R<sup>16</sup> each represents (1) hydrogen, (2) C1-8 alkyl, (3) C2-8 alkenyl, (4) C2-8 alkynyl, (5) ring 1, or (6) C1-8 alkyl, C2-8 alkenyl or C2-8 alkynyl optionally substituted with 1-5 substituents selected from ring 1 and -O-ring 1,

R<sup>14</sup> represents C1-4 alkyl or ring 1,

ring 1 represents (1) C3-15 mono-, bi- or tri-carbocyclic aryl which may be partially or fully saturated, or (2) 3- to 15-membered mono-, bi- or tri-cyclic hetero aryl containing 1-4 nitrogen atoms, 1-2 oxygen atoms and/or 1-2 sulfur atoms which may be partially or fully saturated,

ring 1 may be substituted with 1-5 substituents selected from (1) C1-8 alkyl, (2) C2-8 alkenyl, (3) C2-8 alkynyl, (4) halogen, (5) cyano, (6) ring 2, (7) -OR<sup>17</sup>, (8) -SR<sup>18</sup>, (9) -NR<sup>19</sup>R<sup>20</sup>, (10) -COR<sup>21</sup>, (11) -COOR<sup>22</sup>, (12) -CONR<sup>23</sup>R<sup>24</sup>, (13) -NR<sup>25</sup>COR<sup>26</sup>, (14) -SO<sub>2</sub>NR<sup>27</sup>R<sup>28</sup>, (15) -NR<sup>29</sup>SO<sub>2</sub>R<sup>30</sup>, (16) -N(SO<sub>2</sub>R<sup>31</sup>)<sub>2</sub>, (17) oxo, and (18) C1-8 alkyl, C2-8 alkenyl or C2-8 alkynyl optionally substituted with 1-5 substituents selected from the following (a)-(e): (a) halogen, (b) ring 2, (c) -OR<sup>32</sup>, (d) -NR<sup>33</sup>COR<sup>34</sup>, (e) =NOR<sup>35</sup>,

R<sup>17</sup>-R<sup>29</sup> and R<sup>32</sup>-R<sup>35</sup> each represents (1) hydrogen, (2) C1-8 alkyl, (3) C2-8 alkenyl, (4) C2-8 alkynyl, (5) ring 2, or (6) C1-8 alkyl, C2-8 alkenyl or C2-8 alkynyl optionally

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substituted with 1-3 substituents selected from the following (a)-(f): (a) ring 2, (b)  $-OR^{36}$ , (c)  $-COOR^{37}$ , (d)  $-NR^{38}R^{39}$ , (e) halogen, (f)  $=NR^{40}$ ,

$R^{30}$  and  $R^{31}$  each represents C1-4 alkyl,

$R^{36}-R^{40}$  each represents hydrogen or C1-4 alkyl optionally substituted with hydroxyl, ring 2 represents (1) C3-15 mono-, bi- or tri-carbocyclic aryl which may be partially or fully saturated, or (2) 3- to 15-membered mono-, bi- or tri-cyclic hetero aryl containing 1-4 nitrogen atoms, 1-2 oxygen atoms and/or 1-2 sulfur atoms which may be partially or fully saturated,

ring 2 may be substituted with 1-5 substituents selected from (1) C1-8 alkyl, (2) halogen, (3)  $-OCF_3$ , (4) cyano, (5) ring 3, (6)  $-OR^{41}$ , (7)  $-NR^{42}R^{43}$ , (8)  $-COR^{44}$ , (9)  $-COOR^{45}$ , (10)  $-CONR^{46}R^{47}$ , (11)  $-NR^{48}COR^{49}$ , (12)  $-SO_2NR^{50}R^{51}$ , (13)  $-NR^{52}SO_2R^{53}$ , and (14)  $-C(NH_2)=NR^{54}$ ,

$R^{41}-R^{52}$  and  $R^{54}$  each represents (1) hydrogen, (2) C1-8 alkyl, (3) C2-8 alkenyl, (4) C2-8 alkynyl, (5) ring 3, (6)  $-OR^{55}$ , or (7) C1-8 alkyl, C2-8 alkenyl or C2-8 alkynyl optionally substituted with 1-3 substituents selected from the following (a)-(d): (a) ring 3, (b)  $-OR^{56}$ , (c)  $-COOR^{57}$ , (d)  $-NR^{58}R^{59}$ ,

$R^{53}$  represents C1-8 alkyl,

$R^{55}-R^{59}$  each represents hydrogen or C1-4 alkyl,

ring 3 represents (1) C3-8 mono-carbocyclic aryl which may be partially or fully saturated, or (2) 3-8 membered mono-cyclic hetero aryl containing 1-4 nitrogen atoms, 1-2 oxygen atoms and/or 1-2 sulfur atoms which may be partially or fully saturated,

ring 3 may be substituted with 1-3 of  $=O$  or  $=S$ ,

$R^2$  represents (1) hydrogen, (2) C1-8 alkyl, (3) C2-8 alkenyl, (4) C2-8 alkynyl, (5) ring 4, or (6) C1-8 alkyl, C2-8 alkenyl or C2-8 alkynyl optionally substituted with 1-5 substituents selected from the following (a)-(i): (a) hydrogen, (b)  $-OR^{60}$ , (c)  $-NR^{61}R^{62}$ , (d)  $-CONR^{63}R^{64}$ , (e)  $-NR^{65}COR^{66}$ , (f)  $-NR^{67}SO_2R^{68}$ , (g)  $NR^{69}COOR^{70}$ , (h) ring 4, (i) cyano,

$R^{60}-R^{67}$  and  $R^{69}$  each represents hydrogen, C1-8 alkyl, C2-8 alkenyl, or C2-8 alkynyl,

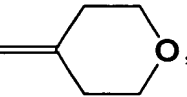
$R^{68}$  and  $R^{70}$  each represents C1-4 alkyl, C2-4 alkenyl or C2-4 alkynyl,

ring 4 represents phenyl, pyridinyl, or C3-8 cycloalkyl,

ring 4 may be substituted with 1-5 of C1-4 alkyl,

$R^3$  and  $R^4$  together with a carbon atom to which they are attached, form C3-8 cycloalkyl, or  $R^3$  and  $R^4$  each represents (1) hydrogen, (2) C1-8 alkyl, (3) C2-8 alkenyl, (4) C2-8

alkynyl, (5) C1-8 alkyl, C2-8 alkenyl or C2-8 alkynyl optionally substituted with 1-5 substituents

selected from the following (a)-(c): (a) ring 5, (b) hydroxyl, (c) ,

ring 5 represents (1) C3-15 mono-, bi- or tri-carbocyclic aryl which may be partially or fully saturated, or (2) 3- to 15-membered mono-, bi- or tri-cyclic hetero aryl containing 1-4 nitrogen atoms, 1-2 oxygen atoms and/or 1-2 sulfur atoms which may be partially or fully saturated,

ring 5 may be substituted with 1-5 of -OR<sup>71</sup>, C1-4 alkyl or oxo,

R<sup>71</sup> represents hydrogen or C1-4 alkyl,

a quaternary ammonium salt thereof, an N-oxide thereof, or a salt thereof.

2. (Original) The compound according to claim 1, which is selected from the group consisting of

- (1) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-methylaminocarbonyl-2-chlorophenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (2) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-(5-oxo-4,5-dihydro-1,2,4-thiadiazol-3-yl)phenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (3) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-2-ethylbutyl)-9-(4-(4-(2-methoxyethylaminocarbonyl)-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (4) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-2-methylpropyl)-9-(4-(4-methylsulfonylamino-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (5) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-(pyrrolidin-1-yl)carbonyl-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (6) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-2-ethylbutyl)-9-(4-(2-methoxy-4-methylsulfonylamino)phenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (7) (3S)-1-butyl-2,5-dioxo-3-(2-methylpropyl)-9-(4-(2-methoxy-4-methylsulfonylamino)phenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (8) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-(2-methylpropyl)carbonylamino)phenylmethyl)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (9) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-(2-methylpropyl)carbonylamino-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

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- (10) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(2-(4-methylaminocarbonylphenoxy)ethyl)-1,4,9-triazaspiro[5.5]undecane,
- (11) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(5-(4-methylaminocarbonylphenoxy)pentyl)-1,4,9-triazaspiro[5.5]undecane,
- (12) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-methylaminocarbonylphenoxy)butyl)-1,4,9-triazaspiro[5.5]undecane,
- (13) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(cyclohexen-4-yl)methyl)-9-(4-(4-methylaminocarbonylphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (14) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-methylsulfonylaminophenoxy)butyl)-1,4,9-triazaspiro[5.5]undecane, and
- (15) (3R)-1-pentyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-methylaminocarbonylphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane.

3. (Original) The compound according to claim 1, which is selected from the group consisting of

- (1) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-cyclopropylmethylaminocarbonylphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (2) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-carboxy-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (3) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-methylaminocarbonyl-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (4) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-carboxy-2-methoxyphenylmethyl)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (5) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-(N,N-dimethylaminocarbonyl)-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (6) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-carboxy-2-ethoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (7) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-carboxy-2,6-dimethylphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (8) (3R)-1-pentyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-carboxy-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (9) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-2-ethylbutyl)-9-(4-(4-carboxy-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

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- (10) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-cyclopropylmethylaminocarbonylphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (11) (3R)-1-propyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-dimethylaminocarbonyl-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (12) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cycloheptylmethyl)-9-(4-(4-carboxy-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (13) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclopentylmethyl)-9-(4-(4-carboxy-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (14) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclopentylmethyl)-9-(4-(4-carboxy-2-ethoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (15) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-cyclopropylmethylaminocarbonyl-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (16) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-methylaminocarbonyl-2-methoxyphenylmethyl)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (17) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-isopropylaminocarbonyl-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (18) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-(2-methylpropyl)aminocarbonyl-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (19) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-(2,2-dimethylpropylaminocarbonyl)-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (20) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-isopropylcarbonylaminophenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (21) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-(2-methylpropyl)carbonylaminophenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (22) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(tetrahydropyran-4-yl)methyl)-9-(4-(4-isopropylcarbonylamino-2-methoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (23) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(cyclopenten-4-yl)methyl)-9-(4-(4-carboxy-2-methylphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,
- (24) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-(cyclopenten-4-yl)methyl)-9-(4-(4-carboxy-2-ethoxyphenoxy)phenylmethyl)-1,4,9-triazaspiro[5.5]undecane,

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- (25) (3R)-1-(2-butynyl)-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(4-(4-methylaminocarbonylphenoxy)butyl)-1,4,9-triazaspiro[5.5]undecane,  
(26) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(1-(4-(4-methylaminocarbonylphenoxy)phenyl)ethyl)-1,4,9-triazaspiro[5.5]undecane, and  
(27) (3R)-1-butyl-2,5-dioxo-3-((1R)-1-hydroxy-1-cyclohexylmethyl)-9-(1-(4-(4-carboxyphenoxy)phenyl)ethyl)-1,4,9-triazaspiro[5.5]undecane.

4. (Original) The compound according to claim 1, wherein  $R^1$  is C1-8 alkyl, C2-4 alkenyl, or C2-4 alkynyl substituted with  $-\text{COR}^6$ ,  $=\text{NR}^{15}$ , or  $=\text{NOR}^{16}$ , in which  $R^6$ ,  $R^{15}$  and  $R^{16}$  have the same meanings as defined in claim 1.

5. (Original) The compound according to claim 1, wherein at least one of substituents of ring 1 in  $R^1$  is  $-\text{COR}^{12}$ , oxo, or  $=\text{NOR}^{35}$ , in which  $R^{12}$  and  $R^{35}$  have the same meanings as defined in claim 1.

6. (Original) The compound according to claim 1, wherein at least one of substituents of ring 2 in  $R^1$  is  $-\text{COR}^{44}$  or  $-\text{C}(\text{NH}_2)=\text{NOR}^{54}$ , in which  $R^{44}$  and  $R^{54}$  have the same meanings as defined in claim 1.

7. (Original) The compound according to claim 1, wherein at least one of substituents of ring 3 in  $R^1$  is  $=\text{O}$  or  $=\text{S}$ .

8. (Currently Amended) A pharmaceutical composition which comprises, as an active ingredient, the compound represented by formula (I) according to claim 1, a quaternary ammonium salt thereof, an N-oxide thereof, or a salt thereof, and a pharmaceutically acceptable carrier.

9. (Currently Amended) A The pharmaceutical composition according to claim 8,  
which is a regulator of a chemokine/chemokine receptor, which comprises, as an active  
ingredient, the compound represented by formula (I) according to claim 1, a quaternary  
ammonium salt thereof, an N-oxide thereof, or a salt thereof.

10. (Currently Amended) The ~~regulator of a chemokine/chemokine receptor~~  
pharmaceutical composition according to claim 9, which is a CCR5 antagonist.

11. (Currently Amended) A ~~pharmaceutical composition~~ method for prevention  
and/or treatment for inflammatory diseases, immunologic diseases, human immunodeficiency  
virus, allergic diseases, ischemia-reperfusion injury, acute respiratory distress syndrome, shock  
accompanied by bacterial infection, diabetes mellitus, or metastasis, which comprises, ~~as an~~  
~~active ingredient,~~ administering to a subject in need thereof an effective amount of the compound  
represented by formula (I) according to claim 1, a quaternary ammonium salt thereof, an N-oxide  
thereof, or a salt thereof.

12. (Original) A method for antagonizing CCR5 in a mammal, which comprises  
administering to a mammal an effective amount of the compound of formula (I) according to  
claim 1, a quaternary ammonium salt thereof, an N-oxide thereof, or a salt thereof.

Claim 13. (Canceled)